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(54) OPTICAL REPEATER AND OPTICAL REPEATING SYSTEM

(57) Abstract:

PURPOSE: To obtain a compact optical repeater provided with a monitoring function by modulating an exciting light for amplifying an optical signal with a prescribed oscillation frequency and executing the loop-back.

CONSTITUTION: For instance, when an input to an incoming repeating part 11 is interrupted, and the output of a main signal amplified from a fiber amplifier 13-1 is interrupted, a no-signal detecting circuit 27-1 outputs a control signal 28-1, and an optical shutter 29-1 sets an optical fiber 31-1 to a conduction state. Also, the oscillator 32-2 of an outgoing an outgoing repeating part 12 supplies the modulating signal 33-2 of a prescribed frequency to a fiber amplifier 13-2, and modulates the exciting light of a pump light source 17-2. A modulated optical signal outputted from the fiber amplifier 13-2 is supplied to a multiplexer 23-1 of the incoming repeating part 11 side through a demultiplexer 21-2 and the optical fiber 31-1, and transmitted to the incoming circuit from an output part

15-1. In such a manner, a fault such as a disconnection of a cable can be detected.

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